

ABSTRACT

An LED with improved current spreading structures that provide enhanced current injection into the LED's active layer, improving its power and luminous flux. The
5 current spreading structures can be used in LEDs larger than conventional LEDs while maintaining the enhanced current injection. The invention is particularly applicable to LEDs having insulating substrates but can also reduce the series resistance of LEDs having
10 conductive substrates. The improved structures comprise conductive fingers that form cooperating conductive paths that ensure that current spreads from the p-type and n-type contacts into the fingers and uniformly spreads though the oppositely doped layers. The current then
15 spreads to the active layer to uniformly inject electrons and holes throughout the active layer, which recombine to emit light.